BookletChart™

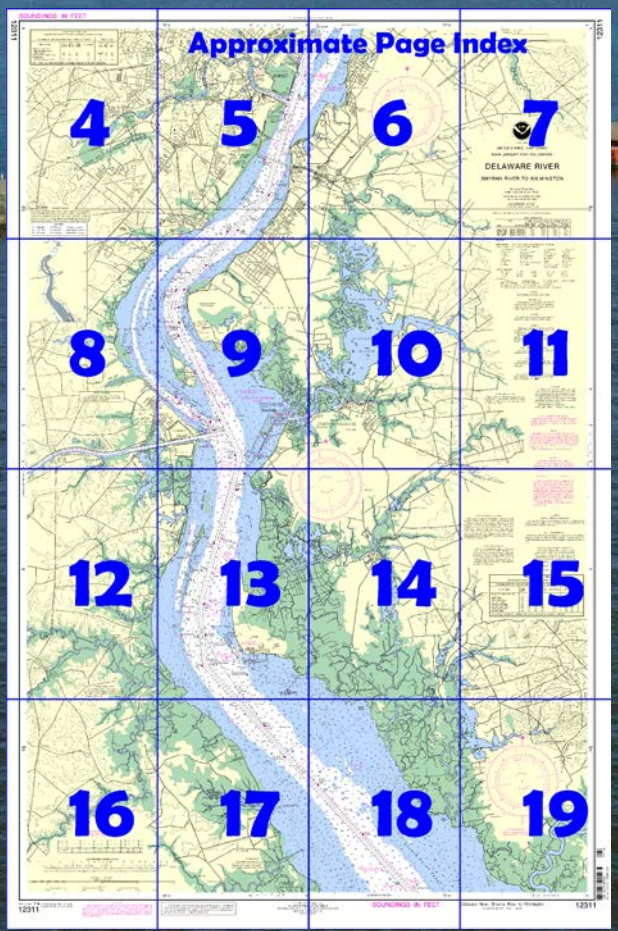
Delaware Bay – Smyrna River to Wilmington

NOAA Chart 12311

A reduced-scale NOAA nautical chart for small boaters

When possible, use the full-size NOAA chart for navigation.

- Complete, reduced-scale nautical chart
- Print at home for free
- Convenient size
- Up-to-date with Notices to Mariners
- Compiled by NOAA's Office of Coast Survey, the nation's chartmaker



Published by the
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Coast Survey
www.NauticalCharts.NOAA.gov
888-990-NOAA

What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at http://www.NauticalCharts.NOAA.gov.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.

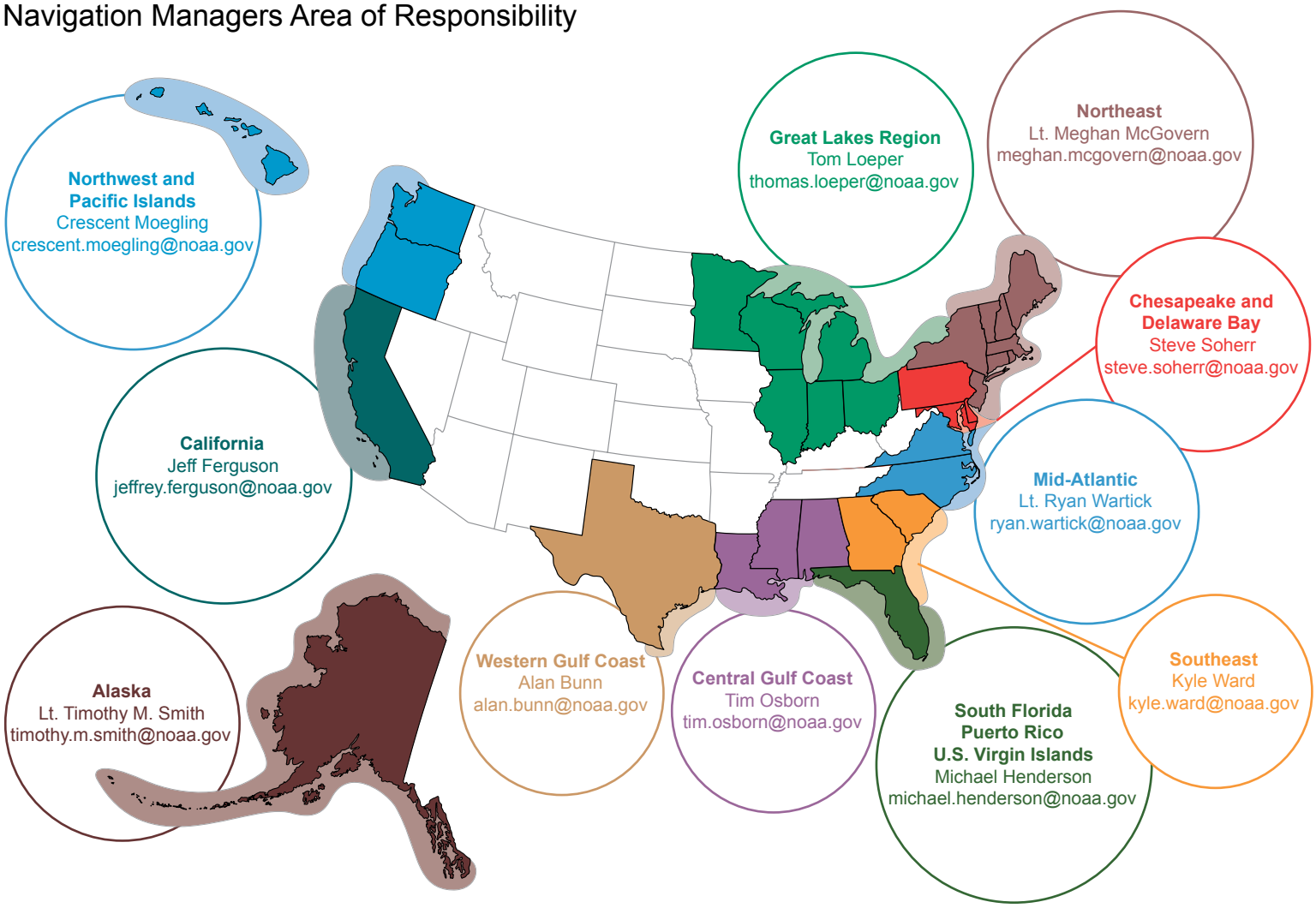
For latest Coast Pilot excerpt visit the Office of Coast Survey website at http://www.nauticalcharts.noaa.gov/nsd/searchbychart.php?chart=12311

(Selected Excerpts from Coast Pilot)
Artificial Island. The domes of the Salem Nuclear Power Plant, at the south end of the island, are prominent. An unmarked channel leads to a basin south of the powerplant; 18 feet was reported in the channel and basin.
Alloway Creek has a depth of 3 feet to Quinton. The approach is unmarked. The shoals on either side of the mouth must be avoided. Above the mouth, the best water is not always in midstream, and local knowledge is needed. The current velocity is 2.1 knots 0.2 mile above the entrance and 1.4 knots at New Bridge.
The Mill Street bridge at **Hancocks Bridge** has a clearance of 4 feet.
Salem County Bridge at **New Bridge** has a clearance of 3 feet. The State Route 49 bridge at **Quinton** has a clearance of 3 feet. The bridge is in the closed position.
Salem River is entered through **Salem Cove** across from the Chesapeake and Delaware Canal. The approach channel is marked by a lighted buoy, lights, and a lighted **027.3°** range; the depth was 13.4 feet (15.4 feet at midchannel) to Light 14; 12.2 feet through the landcut with 14 to 16 feet in the basin; 16.0 feet to near the bridge at Salem. Above the bridge the depths were 2 feet or less.
Several marinas and boatyards are along the north bend of Salem River and at Salem; slips, gasoline, and marine supplies are available.
Appoquinimink River is used by pleasure craft. Controlling depth to Odessa is 2 feet. The current velocity in the entrance is 1.1 knots. The bridge 3 miles above the mouth has a clearance of 6 feet. The bridge at **Odessa** has a clearance of 4 feet.
Reedy Island. The pier on the channel side of the island has a depth of 10 feet; the current velocity is about 2.5 knots off the pier. A submerged dike extends 3 miles southward from Reedy Island and parallels the western shore; the dike is marked by lights, and unlighted seasonal warning buoys.
Port Penn. The approach, through the Reedy Island dike south of the island, is 5 feet deep and 150 feet wide, and marked on each side by a daybeacon. Approaches to the village from north of Reedy Island or from south of the dike are over flats with depths of 2 feet. Anchorage depths off Port Penn are 15 feet or more.
Delaware City Branch Channel. A light marks the entrance to Delaware City Branch Channel; the controlling depth was 5 feet in the channel entrance from the Delaware River shoaling rapidly along the sides; thence the controlling depth was 6 feet in the channel. Depths alongside the Delaware City bulkhead were 7½ feet to bare. The entrance channel at the Chesapeake and Delaware Canal end was reported to have a depth of 7 feet. Mariners are cautioned to stay inside the north and south entrance channels.
A highway bridge with a clearance of 6 feet crosses the channel 0.6 mile above the entrance; the bridge is maintained in the closed position.
Berths, gasoline, diesel fuel, ice, and marine supplies are available on the west side of Delaware City Branch Channel southwest of the northeast entrance.
Anchorages.–Vessels must not anchor in Christina River channel within the city limits of Wilmington or tieup at any wharf more than two abreast without permission of the harbor commissioners. A general anchorage is off Deepwater Point, south of the river entrance. (See **110.1 and 110.157(a)(7) and (b),** chapter 2, for limits and regulations, and page 391 for **Wilmington climatological table.)**
Bridges.–There are no bridges or overhead power cables over the deepwater section of Christina River. From Lobdell Canal to just above the bridge at Newport, 6.8 miles above the mouth, the least clearance of drawbridges is 2 feet and fixed bridges, 22 feet. (See **117.1 through 117.59 and 117.237,** chapter 2, for drawbridge regulations.) In May 2008, it was reported that the Christina River swing bridge at mile 5.4 was in ruins; caution is advised.
In 1984, partially submerged concrete structures of a former bridge were reported about 4.9 miles above the mouth of the river near Interstate 95 fixed bridge; caution is advised.
Currents.–The current velocity is about 0.8 knot at Wilmington.
Quarantine, customs, immigration, and agricultural quarantine.–(See chapter 3, Vessel Arrival Inspections, and appendix for addresses.)

U.S. Coast Guard Rescue Coordination Center
24 hour Regional Contact for Emergencies

RCC Norfolk	Commander 5th CG District Norfolk, VA	(575) 398-6231

Navigation Managers Area of Responsibility

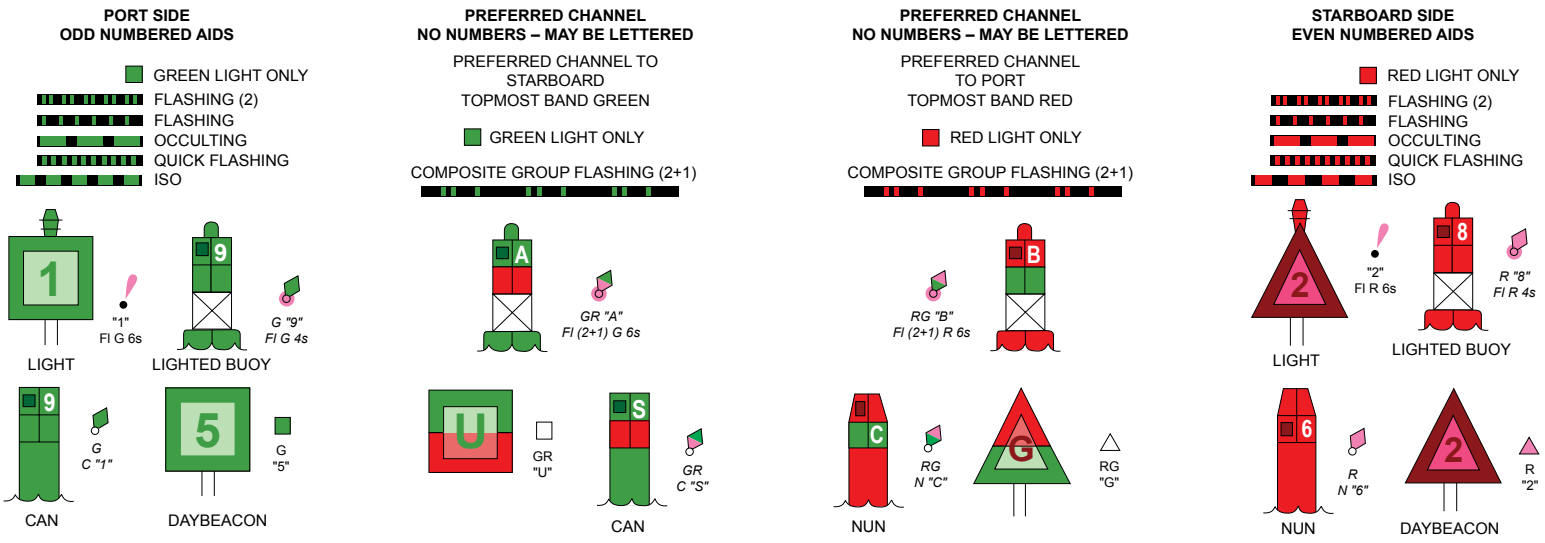


NOAA's navigation managers serve as ambassadors to the maritime community. They help identify navigational challenges facing professional and recreational mariners, and provide NOAA resources and information for safe navigation. For additional information, please visit *nauticalcharts.noaa.gov/service/navmanagers*

To make suggestions or ask questions online, go to *nauticalcharts.noaa.gov/inquiry*.
To report a chart discrepancy, please use *ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx*.

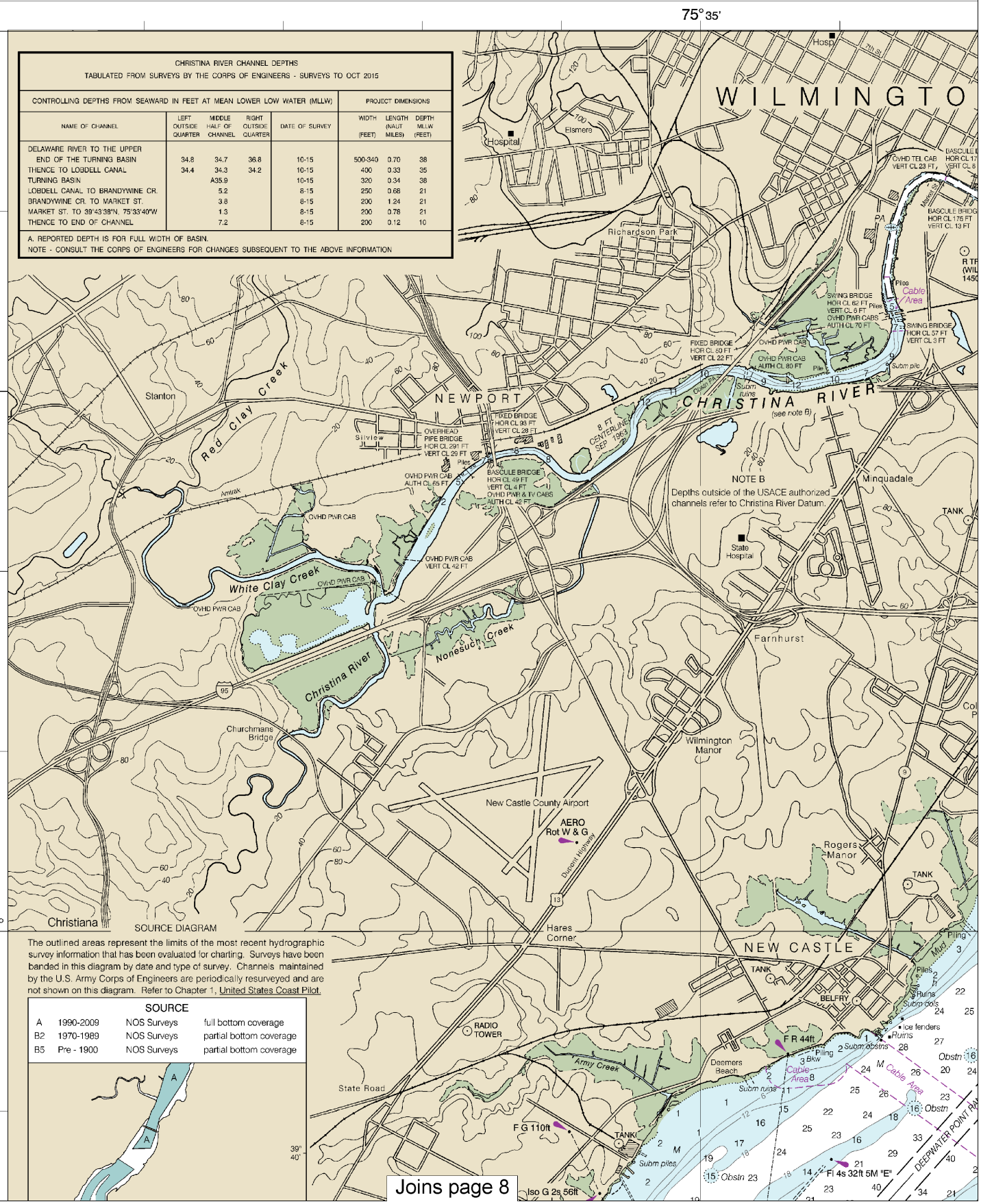
Lateral System As Seen Entering From Seaward

on navigable waters except Western Rivers



For more information on aids to navigation, including those on Western Rivers, please consult the latest USCG Light List for your area. These volumes are available online at *http://www.navcen.uscg.gov*

SOUNDINGS IN FEET



CHRISTINA RIVER CHANNEL DEPTHS
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO OCT 2015

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)					PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT MILES)	DEPTH MLLW (FEET)
DELAWARE RIVER TO THE UPPER END OF THE TURNING BASIN	34.8	34.7	36.8	10-15	500-340	0.70	38
THENCE TO LOBDELL CANAL	34.4	34.3	34.2	10-15	400	0.33	35
TURNING BASIN		A35.9		10-15	320	0.34	38
LOBDELL CANAL TO BRANDYWINE CR.		5.2		8-15	250	0.68	21
BRANDYWINE CR. TO MARKET ST.		3.8		8-15	200	1.24	21
MARKET ST. TO 39°43'38"N, 75°33'40"W		1.3		8-15	200	0.78	21
THENCE TO END OF CHANNEL		7.2		8-15	200	0.12	10

A. REPORTED DEPTH IS FOR FULL WIDTH OF BASIN.
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

SOURCE DIAGRAM

The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

SOURCE			
A	1990-2009	NOS Surveys	full bottom coverage
B2	1970-1989	NOS Surveys	partial bottom coverage
B5	Pre - 1900	NOS Surveys	partial bottom coverage

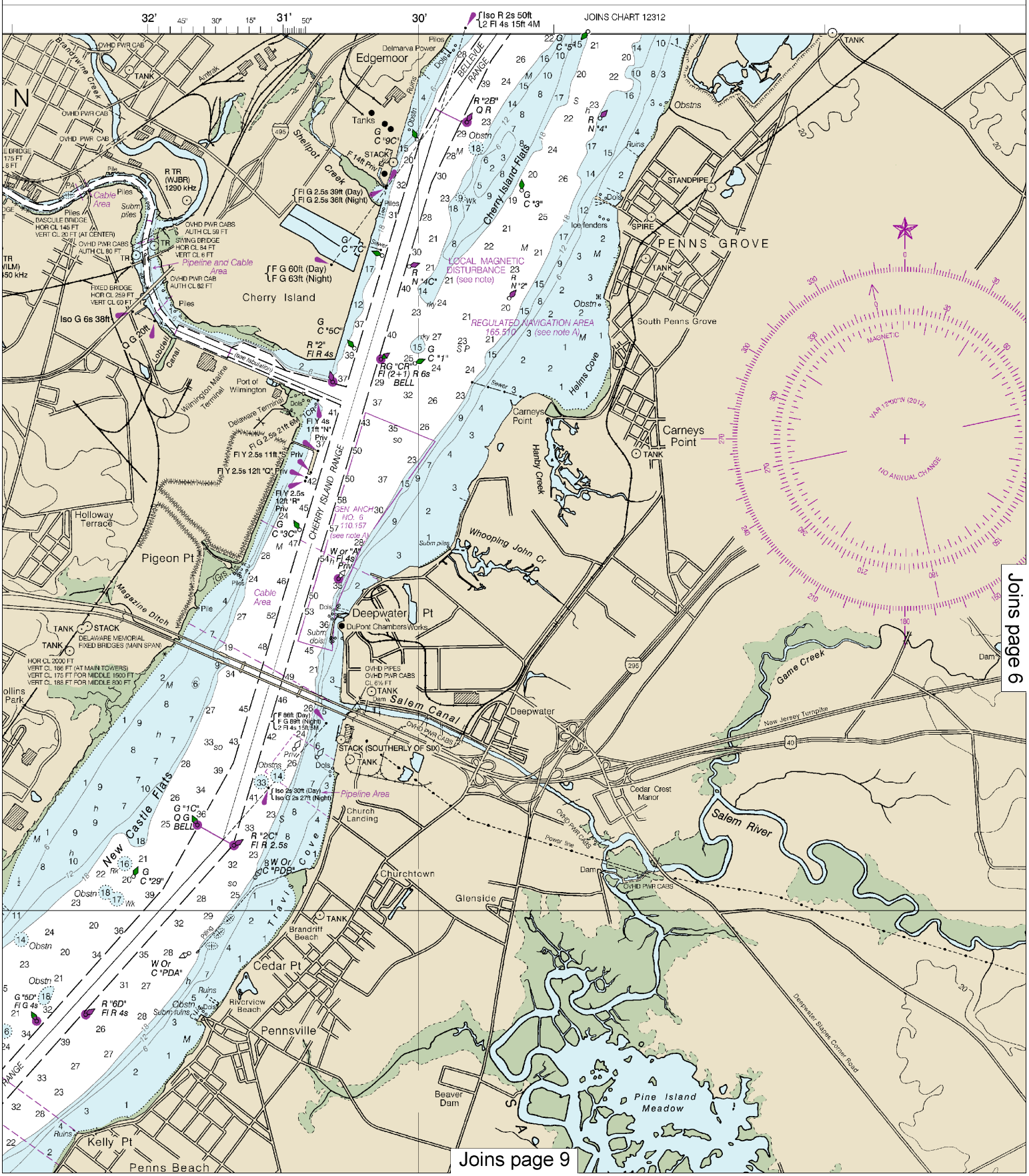
Printed at reduced scale. ~~SCALE 1:40,000~~

Nautical Miles: 1 ½ 0 1 2 3

Yards: 1000 0 1000 2000 3000 4000 5000

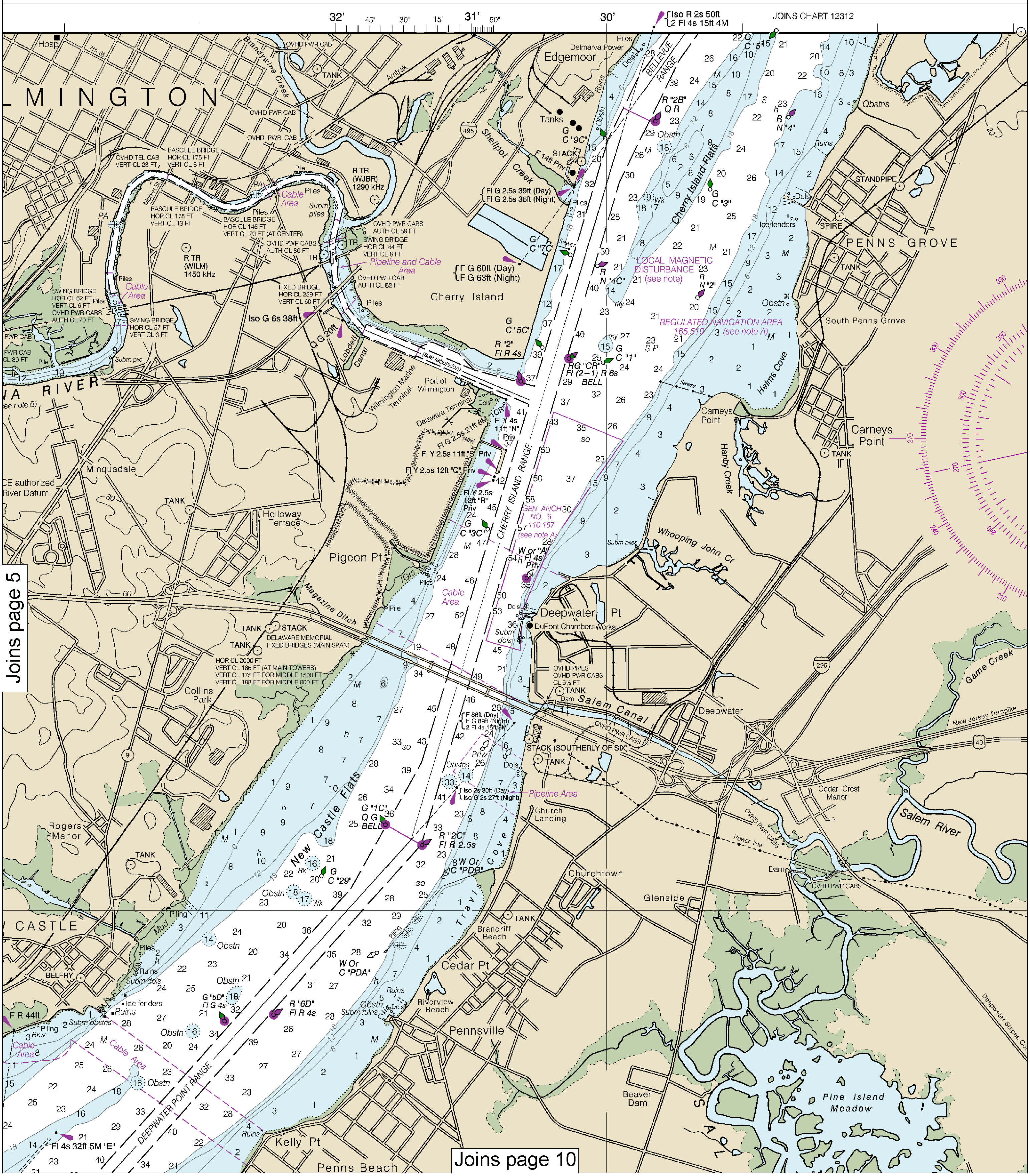
See Note on page 5.

Note: Chart grid lines are aligned with true north.



This BookletChart was reduced to 75% of the original chart scale. The new scale is 1:53333. Barscales have also been reduced and are accurate when used to measure distances in this BookletChart.

Formerly C&GS 294, 1st Ed., Mar. 1913 G-1953-813 KAPP 668



6

Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000

Nautical Miles

1 ½ 0 1 2 3

Yards

1000 0 1000 2000 3000 4000 5000

See Note on page 5.

12311

75° 25'

20'

45'

39° 40'

SCALE 1:40,000

Nautical Miles

1 ½ 0 1 2 3

Yards

1000 0 1000 2000 3000 4000 5000

TANK

Beaver Creek

Perkintown

Oldmans Creek

OVHD PWR CAB

Auburn

Laytons Lake

Dam

Corner Road

MAGNETIC

VAR 12°00'W (2012)

11'0 ANNUAL CHANGE

THE NATION'S CHARTMAKER SINCE 1807

UNITED STATES - EAST COAST

NEW JERSEY AND DELAWARE

DELAWARE RIVER

SMYRNA RIVER TO WILMINGTON

Mercator Projection
Scale 1:40,000 at Lat. 39°33'

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER

Additional information can be obtained at nauticalcharts.noaa.gov.

TIDAL INFORMATION

PLACE		Height referred to datum of soundings (MLLW)		
NAME	(LAT/LONG)	Mean Higher High Water	Mean High Water	Mean Low Water
		feet	feet	feet
Reedy Point	(39°34'N/75°34'W)	5.8	5.5	0.2
New Castle	(39°39'N/75°34'W)	5.8	5.4	0.2
Wilmington	(39°43'N/75°31'W)	5.9	5.5	0.2

Dashes (- - -) located in datum columns indicate unavailable datum values for a tide station. Real-time water levels, tide predictions, and tidal current predictions are available on the Internet from http://tidesandcurrents.noaa.gov.

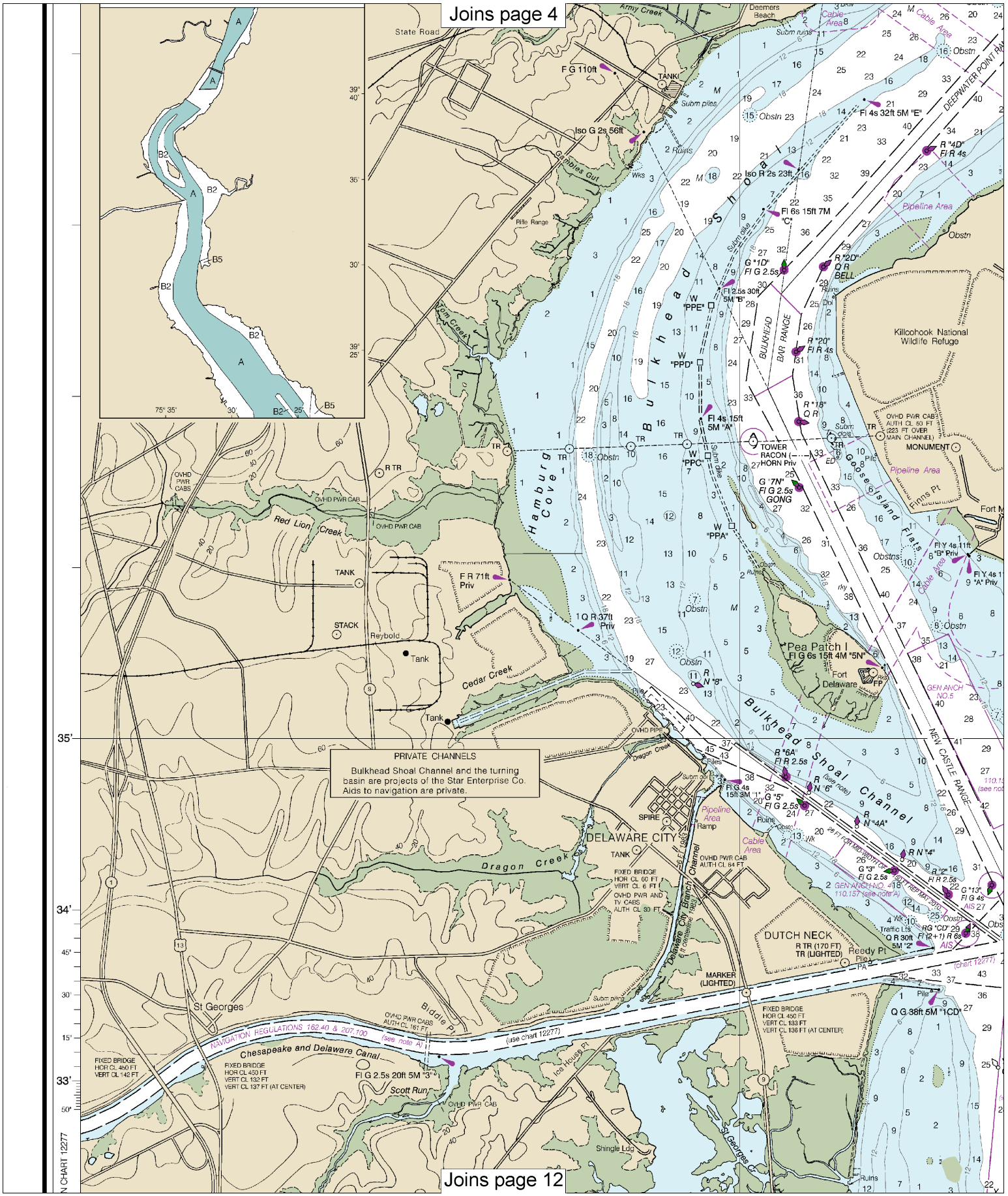
(Apr 2012)

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)

Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical	G green	Mo morse code	R TR radio tower
Al alternating	IQ interrupted quick	N nun	Rot rotating
B black	Iso isophase	OBSC obscured	s seconds
Bn beacon	LT HO lighthouse	Oc occulting	SEC sector
	M nautical mile	Or orange	St M statute miles
	m minutes	Q quick	VQ very quick
	MICRO TR microwave tower	R red	W white

Joins page 11



Printed at reduced scale.

~~SCALE 1:40,000~~

Nautical Miles

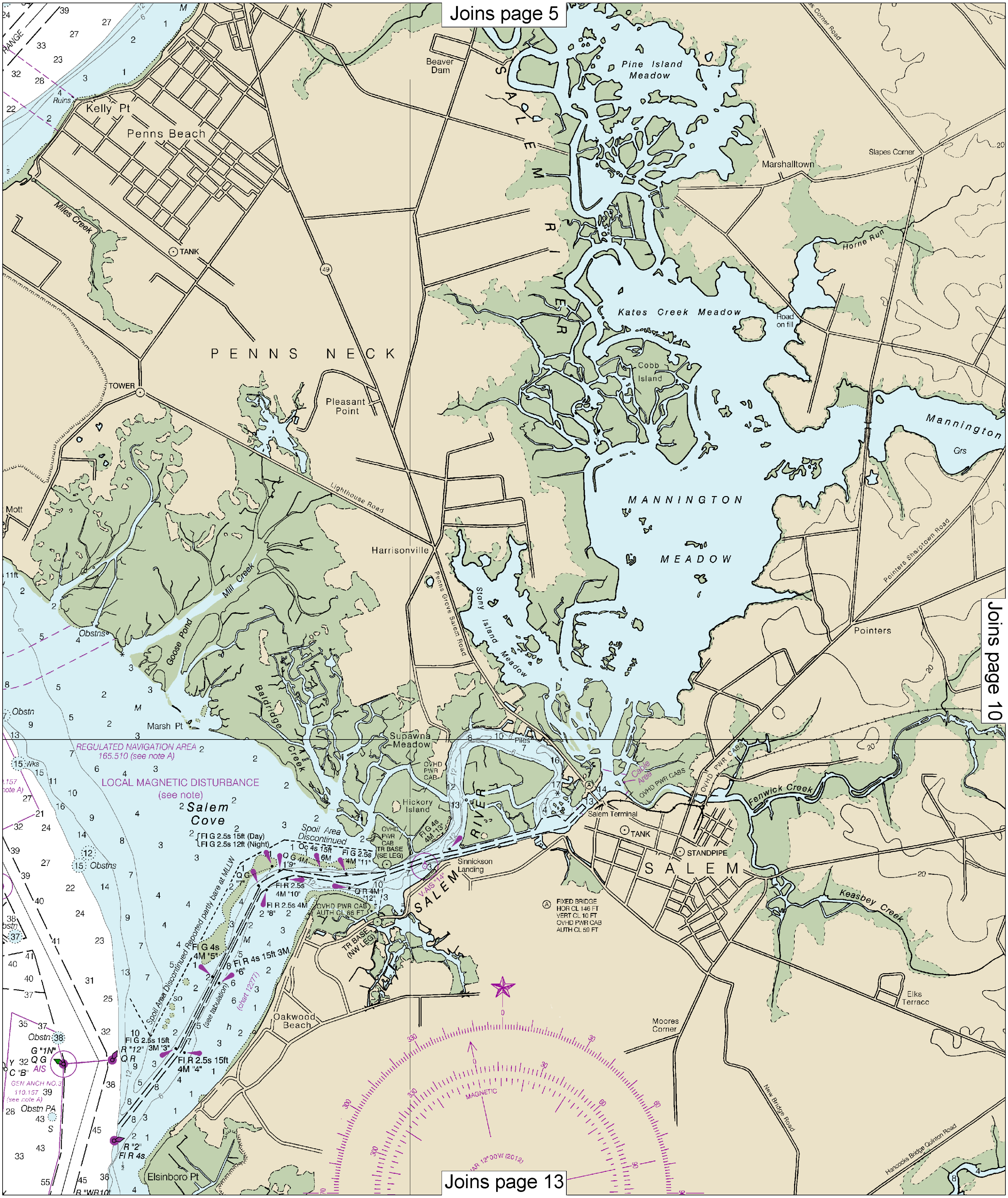
1 ½ 0 1 2 3

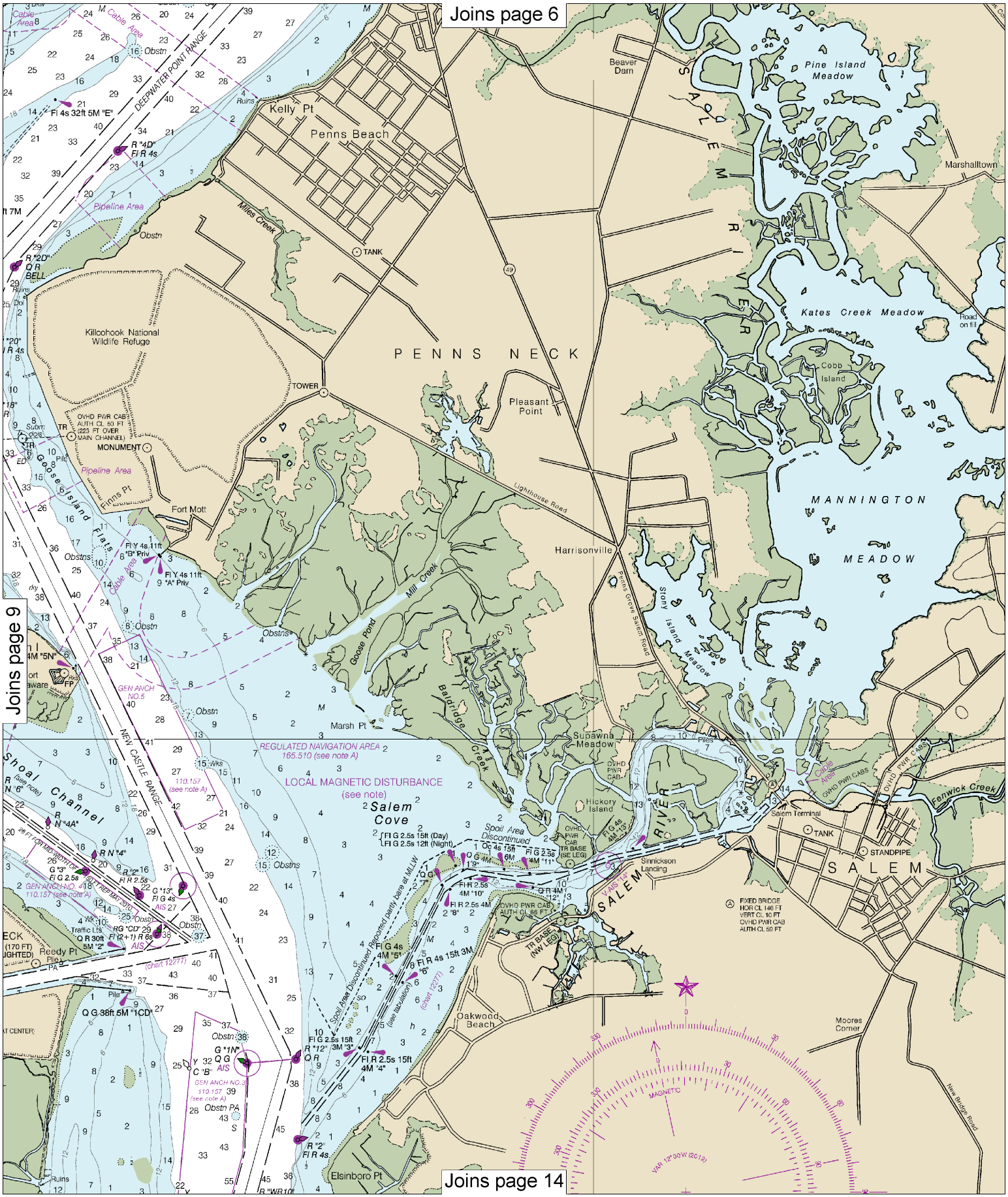
Yards

1000 0 1000 2000 3000 4000 5000

See Note on page 5.

Note: Chart grid lines are aligned with true north.


Joins page 5
Joins page 10
Joins page 13
Kelly Pt
Penns Beach
Ruins
Miles Creek
TANK
PENNS NECK
TOWER
Pleasant Point
Lighthouse Road
Harrisonville
Mott
Mill Creek
Goose Pond
Obstns
Marsh Pt
Baldridge Creek
Supawna Meadow
Hickory Island
Beaver Dam
SALEM RIVER
Pine Island Meadow
Marshalltown
Slapes Corner
Horne Run
Kates Creek Meadow
Road on fill
Cobb Island
Mannington Grs
MANNINGTON MEADOW
Stony Island Meadow
Penns Grove Salem Road
Pointers Sharptown Road
Pointers
Piles
Cable Area
OVHD PWR CABS
Fenwick Creek
Salem Terminal
TANK
STANDPIPE
SALEM
Keasbey Creek
Sinnickson Landing
REGULATED NAVIGATION AREA 165.510 (see note A)
LOCAL MAGNETIC DISTURBANCE (see note)
Salem Cove
Spoil Area Discontinued
Fl G 2.5s 15ft (Day)
Fl G 2.5s 12ft (Night)
Spoil Area Discontinued Reported partly bare at MLW
OVHD PWR CAB AUTH CL 66 FT
TR BASE (SE LEG)
TR BASE (NW LEG)
FIXED BRIDGE HOR CL 146 FT VERT CL 10 FT OVHD PWR CAB AUTH CL 59 FT
Oakwood Beach
Moores Corner
Elks Terrace
New Bridge Road
Hancocks Bridge Quinton Road
MAGNETIC
VAR 12°00'W (2012)
GEN ANCH NO.3 110.157 (see note A)
Obstn PA
Elsinboro Pt
R "2" Fl R 4s
Fl R 2.5s 15ft 4M "4"
Fl G 2.5s 15ft 3M "3"
Fl G 4s 4M "5"
Fl R 4s 15ft 3M "6"
(chart 12277)
(see tabulation)



10

Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

~~SCALE 1:40,000~~

Nautical Miles

1 ½ 0 1 2 3

Yards

1000 0 1000 2000 3000 4000 5000

See Note on page 5.

Joins page 7

atum columns indicate unavailable datum values for a tide station. Real-time water levels, current predictions are available on the Internet from http://tidesandcurrents.noaa.gov.

(Apr 2012)

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)

Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical	G green	Mo morse code	R TR radio tower
Al alternating	IQ interrupted quick	N nun	Rot rotating
B black	Iso isophase	OBSC obscured	s seconds
Bn beacon	LT HO lighthouse	Oc occulting	SEC sector
C can	M nautical mile	Or orange	St M statute miles
DIA diaphone	m minutes	Q quick	VQ very quick
F fixed	MICRO TR microwave tower	R red	W white
Fl flashing	Mkr marker	Ra Ref radar reflector	WhIS whistle
		R Bn radiobeacon	Y yellow

Bottom characteristics:

Blds boulders	Co coral	gy gray	Oys oysters	so soft
bk broken	G gravel	h hard	Rk rock	Sh shells
Cy clay	Grs grass	M mud	S sand	sy sticky

Miscellaneous:

AUTH authorized	Obstn obstruction	PD position doubtful	Submn submerged
ED existence doubtful	PA position approximate	Rep reported	

(21) Wreck, rock, obstruction, or shoal swept clear to the depth indicated.

(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

AUTHORITIES

Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, and U.S. Coast Guard.

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

During some winter months or when endangered by ice, certain aids to navigation are replaced by other types or removed. For details see U.S. Coast Guard Light List.

CAUTION

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

HEIGHTS

Heights in feet above Mean High Water.

AIDS TO NAVIGATION

Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 3 for important supplemental information.

CAUTION

SUBMARINE PIPELINES AND CABLES

Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:

Pipeline Area *Cable Area*

Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging, or trawling.

Covered wells may be marked by lighted or unlighted buoys.

CAUTION

Mariners are warned to stay clear of the protective riprap surrounding navigational light structures shown thus:

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

CAUTION

Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

Station positions are shown thus:
⊙(Accurate location) ○(Approximate location)

LOCAL MAGNETIC DISTURBANCE

Differences of as much as 2° to 5° from the normal variation have been observed along the channel from Artificial Island, New Jersey to Marcus Hook, Pennsylvania.

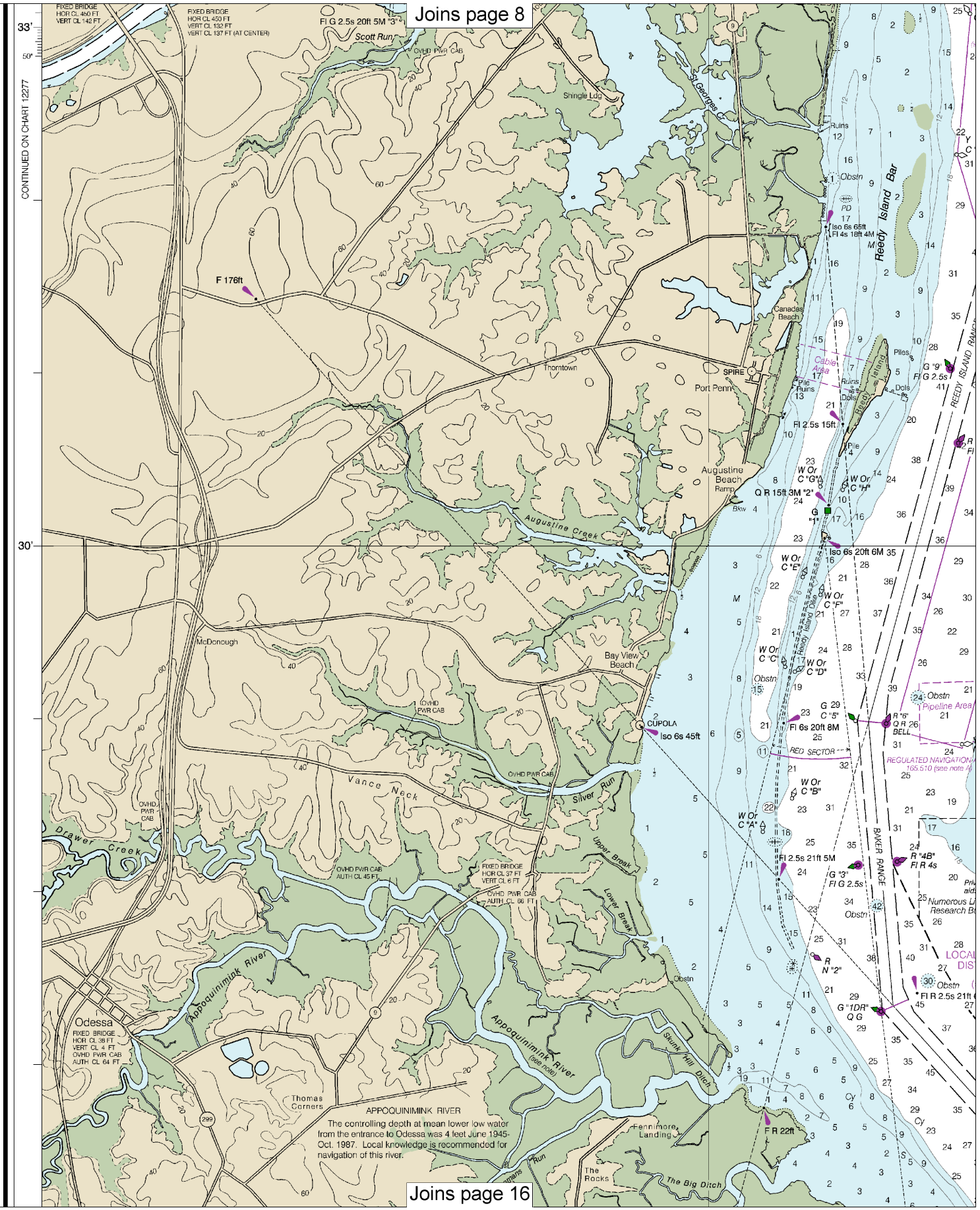
NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 3. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 5th Coast Guard District in Portsmouth, Virginia or at the Office of the District Engineer, Corps of Engineers in Philadelphia, Pennsylvania.

Refer to charted regulation section numbers.

SALEM RIVER CHANNEL TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO AUG 2014						
CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)					PROJECT DIMENSIONS	
NE OF CHANNEL	LEFT OUTSIDE	MIDDLE HALF OF	RIGHT OUTSIDE	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUTICAL	DEPTH MLLW

Joins page 15



12

Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

~~SCALE 1:40,000~~

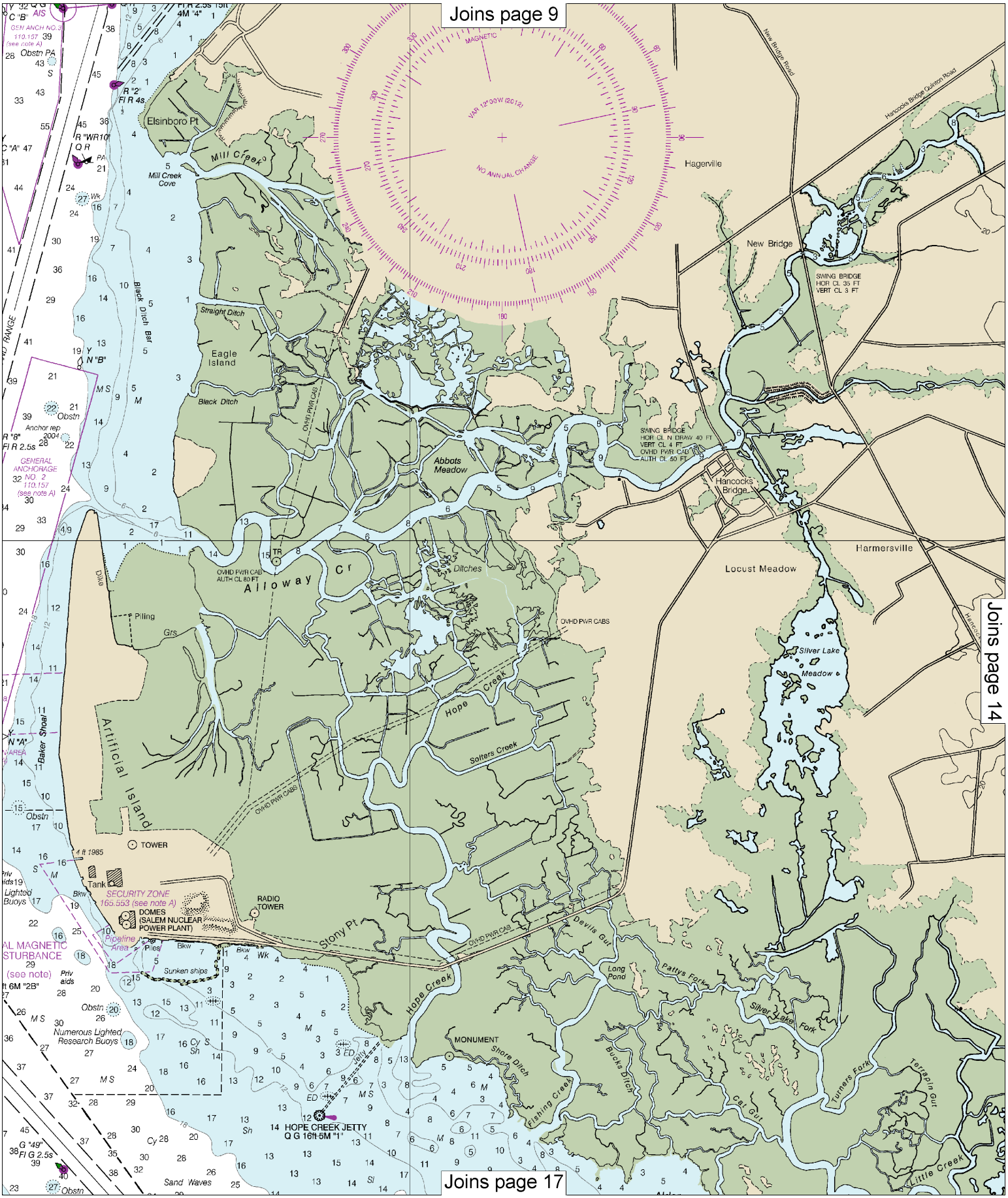
Nautical Miles

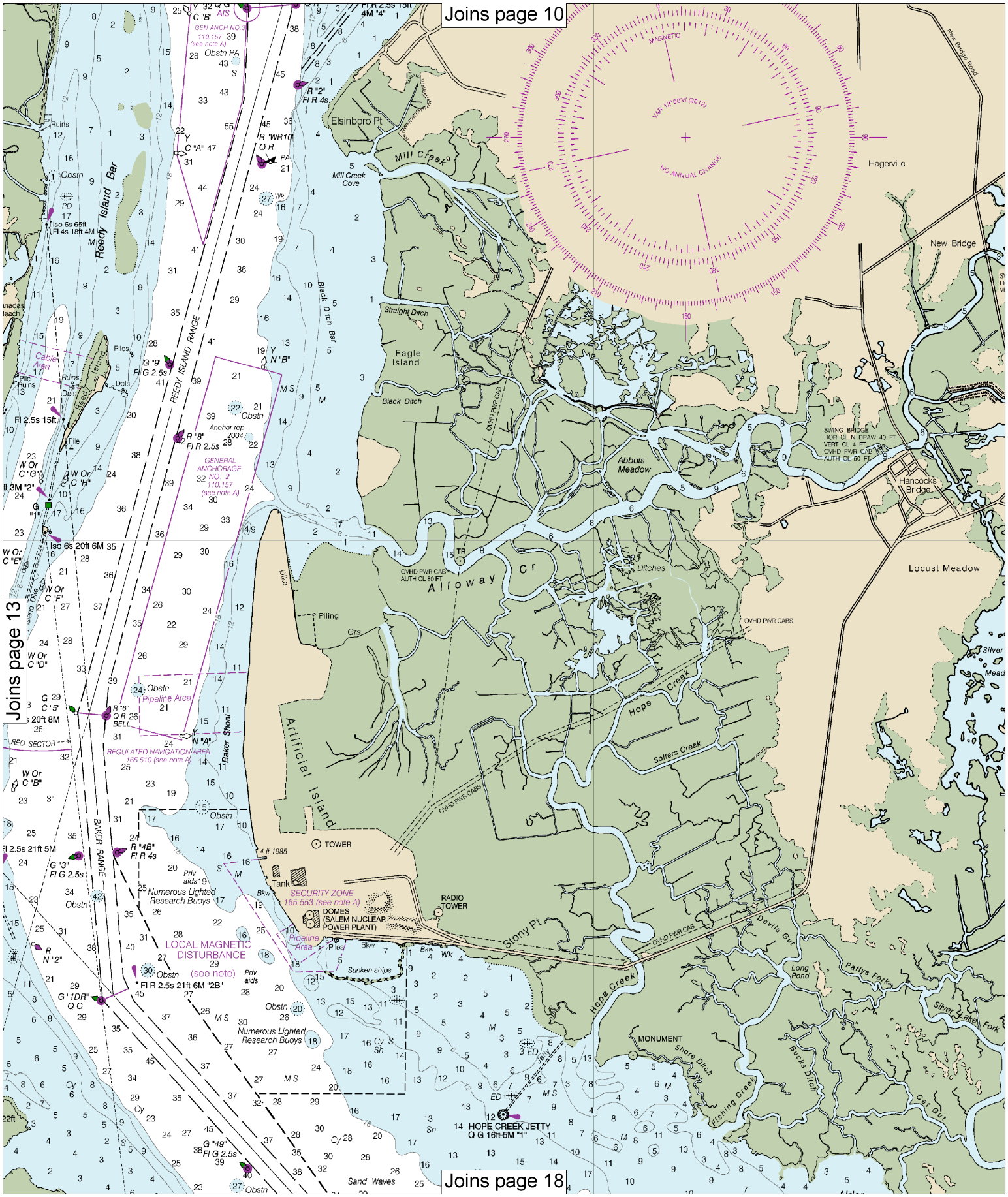
1 ½ 0 1 2 3

Yards

1000 0 1000 2000 3000 4000 5000

See Note on page 5.


Joins page 9
Joins page 14
Joins page 17
Elsinboro Pt
Mill Creek
Mill Creek Cove
Hagerville
New Bridge
New Bridge Road
Hancocks Bridge Quinton Road
SWING BRIDGE
HOR CL 35 FT
VERT CL 3 FT
Straight Ditch
Eagle Island
Black Ditch
Black Ditch Bar
Abbots Meadow
SWING BRIDGE
HOR CL N DRAW 40 FT
VERT CL 4 FT
OVHD PWR CAB
AUTH CL 50 FT
Hancocks Bridge
Harmersville
Locust Meadow
Alloway Cr
OVHD PWR CAB
AUTH CL 80 FT
Ditches
OVHD PWR CABS
Silver Lake
Meadow
Hope Creek
Solters Creek
Artificial Island
Baker Shoal
Piling
Grs
TOWER
Tank
SECURITY ZONE
165.553 (see note A)
DOMES
(SALEM NUCLEAR
POWER PLANT)
RADIO
TOWER
Stony Pt
Pipeline
Area
Piles
Sunken ships
Devils Gut
Long
Pond
Patty's Fork
Silver Lake Fork
Turners Fork
Terrapin Gut
Cat Gut
Bucks Ditch
Fishing Creek
Shore Ditch
MONUMENT
HOPE CREEK JETTY
Q G 16ft 5M "1"
Numerous Lighted
Research Buoys
Lighted
Buoys
Priv
aids
(see note)
AL MAGNETIC
STURBANCE
Sand Waves
Little Creek
GENERAL
ANCHORAGE
NO 2
110.157
(see note A)
Anchor rep
2004
Obstn PA
Obstn
R "2"
Fl R 4s
R "WR10"
Q R
N "B"
N "A"
C "B"
AIS
4M "4"
Fl R 2.5s 15ft
MAGNETIC
VAR 12° 00W (2012)
NO ANNUAL CHANGE



14

Note: Chart grid lines are aligned with true north.

Printed at reduced scale. ~~SCALE 1:40,000~~

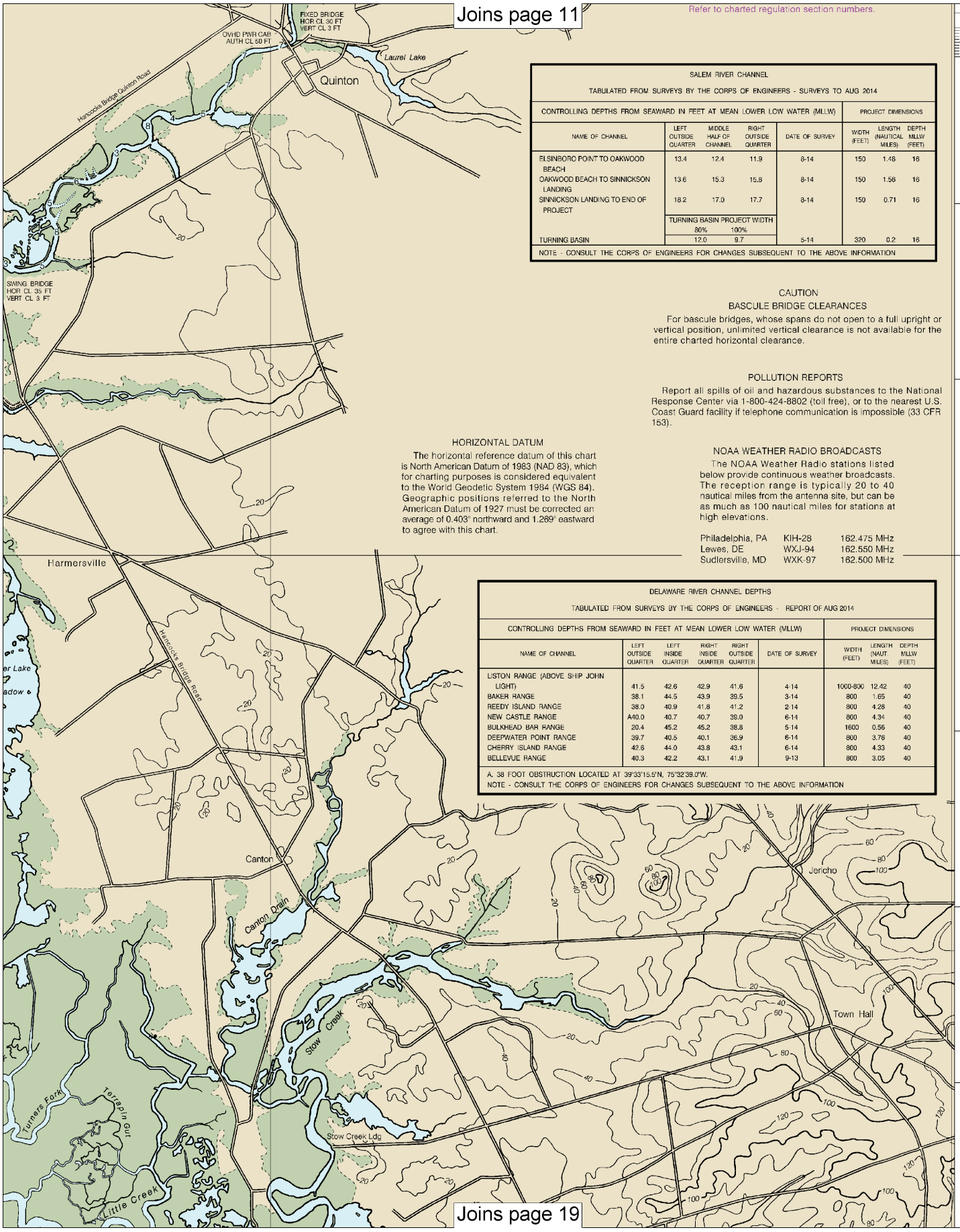
Nautical Miles: 1 ½ 0 1 2 3

Yards: 1000 0 1000 2000 3000 4000 5000

See Note on page 5.

Joins page 11

Refer to charted regulation section numbers.



SALEM RIVER CHANNEL

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO AUG 2014

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)					PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUTICAL MILES)	DEPTH MLLW (FEET)
ELSINBORO POINT TO OAKWOOD BEACH	13.4	12.4	11.9	8-14	150	1.48	16
OAKWOOD BEACH TO SINNICKSON LANDING	13.6	15.3	15.8	8-14	150	1.56	16
SINNICKSON LANDING TO END OF PROJECT	18.2	17.0	17.7	8-14	150	0.71	16
	TURNING BASIN PROJECT WIDTH						
	80%	100%					
TURNING BASIN	12.0	9.7		5-14	320	0.2	16

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CAUTION

BASCULE BRIDGE CLEARANCES

For bascule bridges, whose spans do not open to a full upright or vertical position, unlimited vertical clearance is not available for the entire charted horizontal clearance.

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.403" northward and 1.269" eastward to agree with this chart.

NOAA WEATHER RADIO BROADCASTS

The NOAA Weather Radio stations listed below provide continuous weather broadcasts. The reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Philadelphia, PA	KIH-28	162.475 MHz
Lewes, DE	WXJ-94	162.550 MHz
Sudlersville, MD	WXK-97	162.500 MHz

DELAWARE RIVER CHANNEL DEPTHS

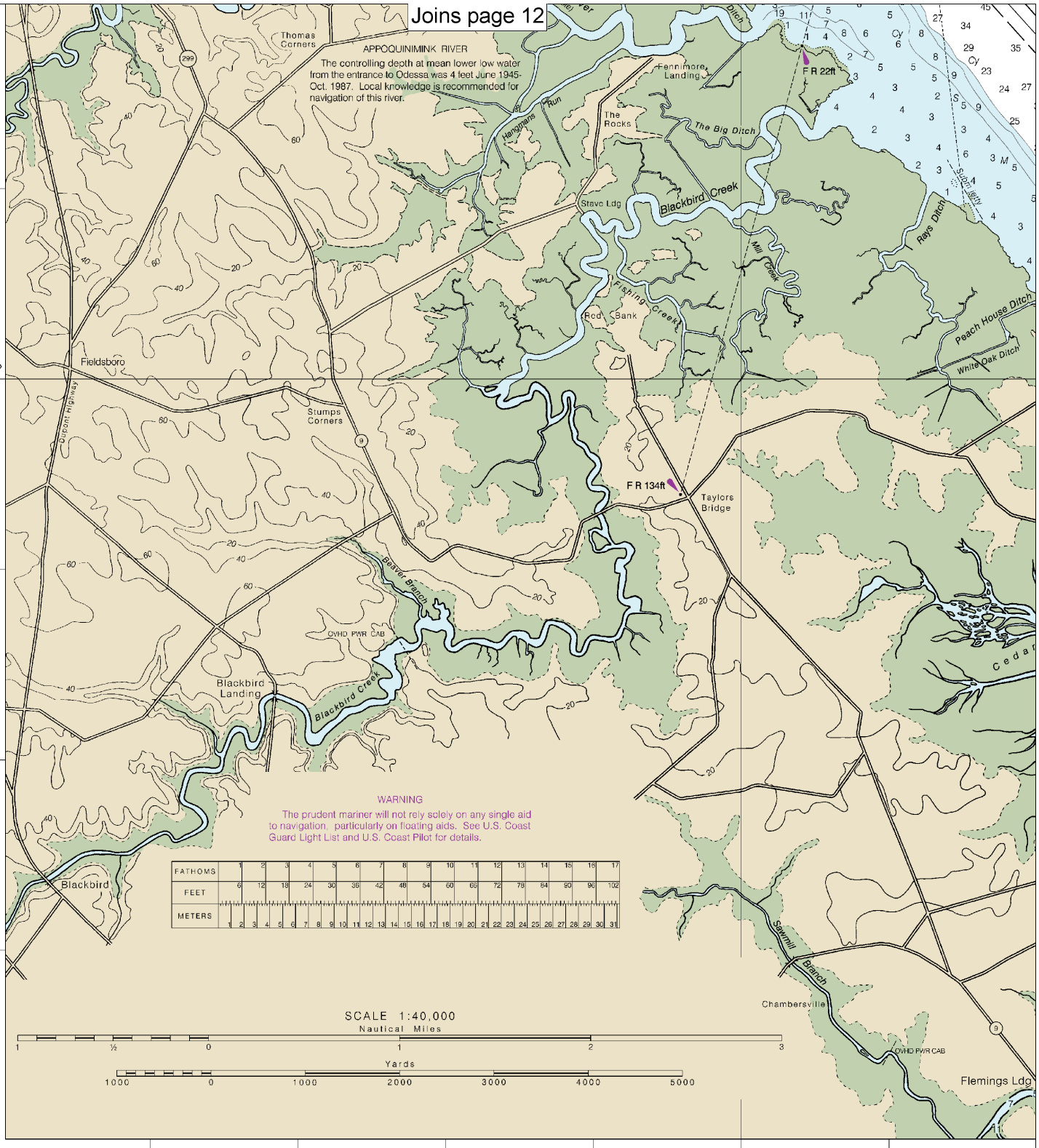
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF AUG 2014

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
LISTON RANGE (ABOVE SHIP JOHN LIGHT)	41.5	42.6	42.9	41.6	4-14	1000-800	12.42	40
BAKER RANGE	38.1	44.5	43.9	39.5	3-14	800	1.65	40
REEDY ISLAND RANGE	38.0	40.9	41.8	41.2	2-14	800	4.28	40
NEW CASTLE RANGE	A40.0	40.7	40.7	39.0	6-14	800	4.34	40
BULKHEAD BAR RANGE	20.4	45.2	45.2	38.8	5-14	1600	0.56	40
DEEPWATER POINT RANGE	39.7	40.5	40.1	36.9	6-14	800	3.76	40
CHERRY ISLAND RANGE	42.6	44.0	43.8	43.1	6-14	800	4.33	40
BELLEVUE RANGE	40.3	42.2	43.1	41.9	9-13	800	3.05	40

A. 38 FOOT OBSTRUCTION LOCATED AT 39°33'15.5"N, 75°32'39.0"W.
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Joins page 19

Joins page 12



46th Ed., May 2012
12311

CAUTION
This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner. Chart updates corrected from Notice to Mariners published after the dates shown in the lower left hand corner are available at nauticalcharts.noaa.gov.

NOAA encourages users to submit inquiries, discrepancies about this chart at http://www.nauticalcharts.noaa.gov/staff/cont

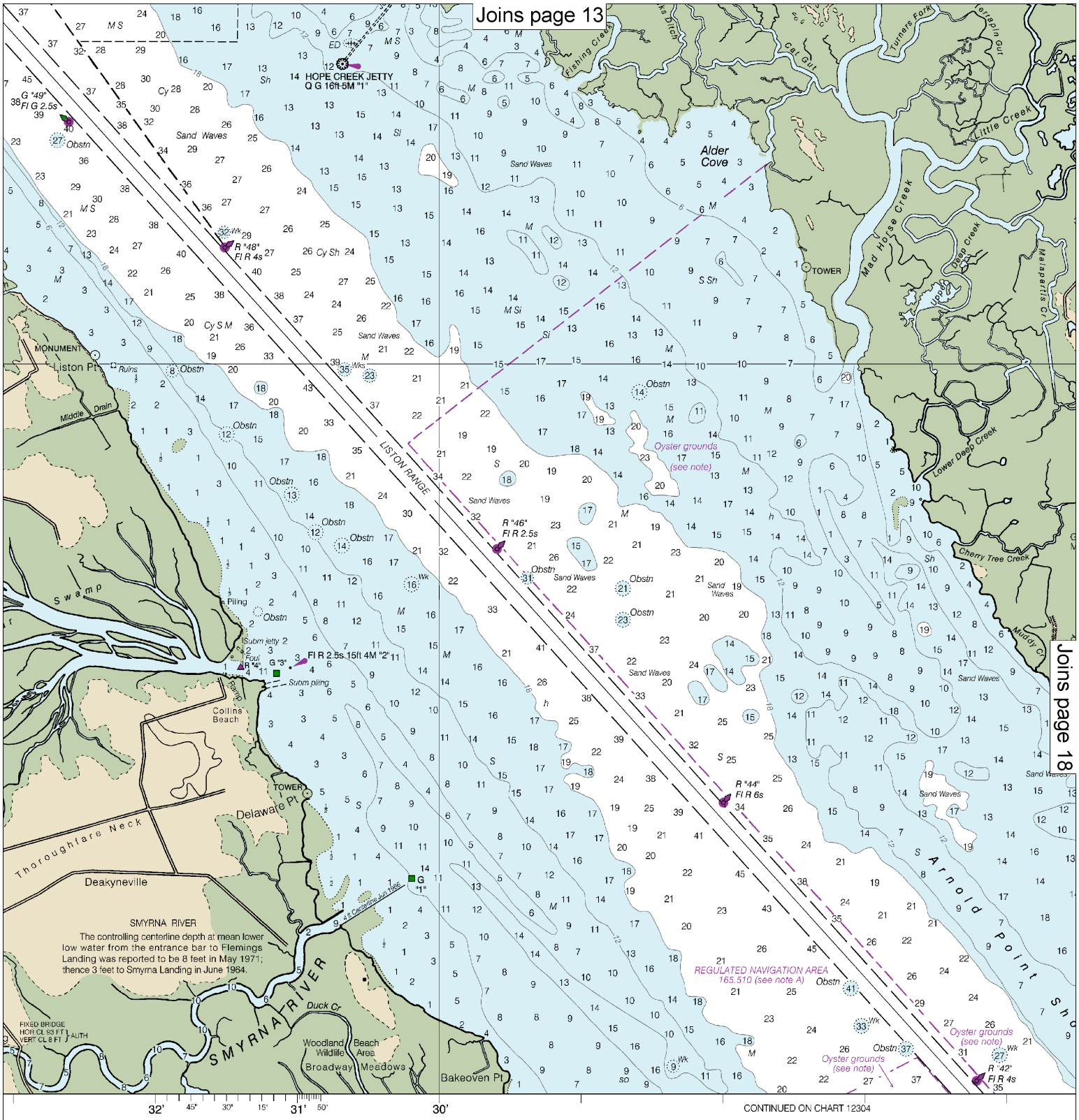
Last Correction: 7/6/2016. Cleared through:
LNM: 2716 (7/5/2016), NM: 2816 (7/9/2016)

Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

~~SCALE 1:40,000~~
Nautical Miles
1 ½ 0 1 2 3
Yards
1000 0 1000 2000 3000 4000 5000

See Note on page 5.



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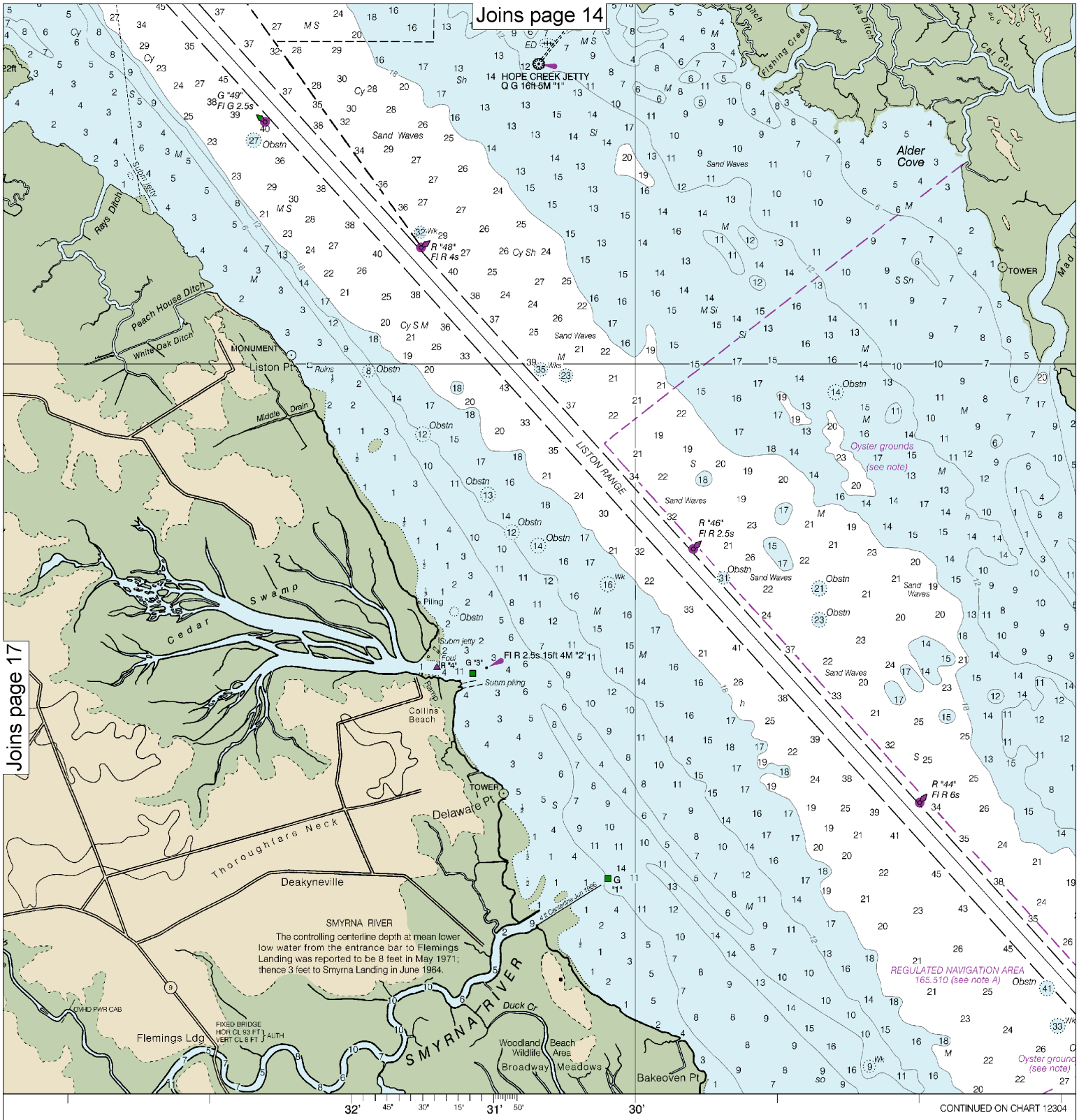
SOUNDINGS IN



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COAST SURVEY

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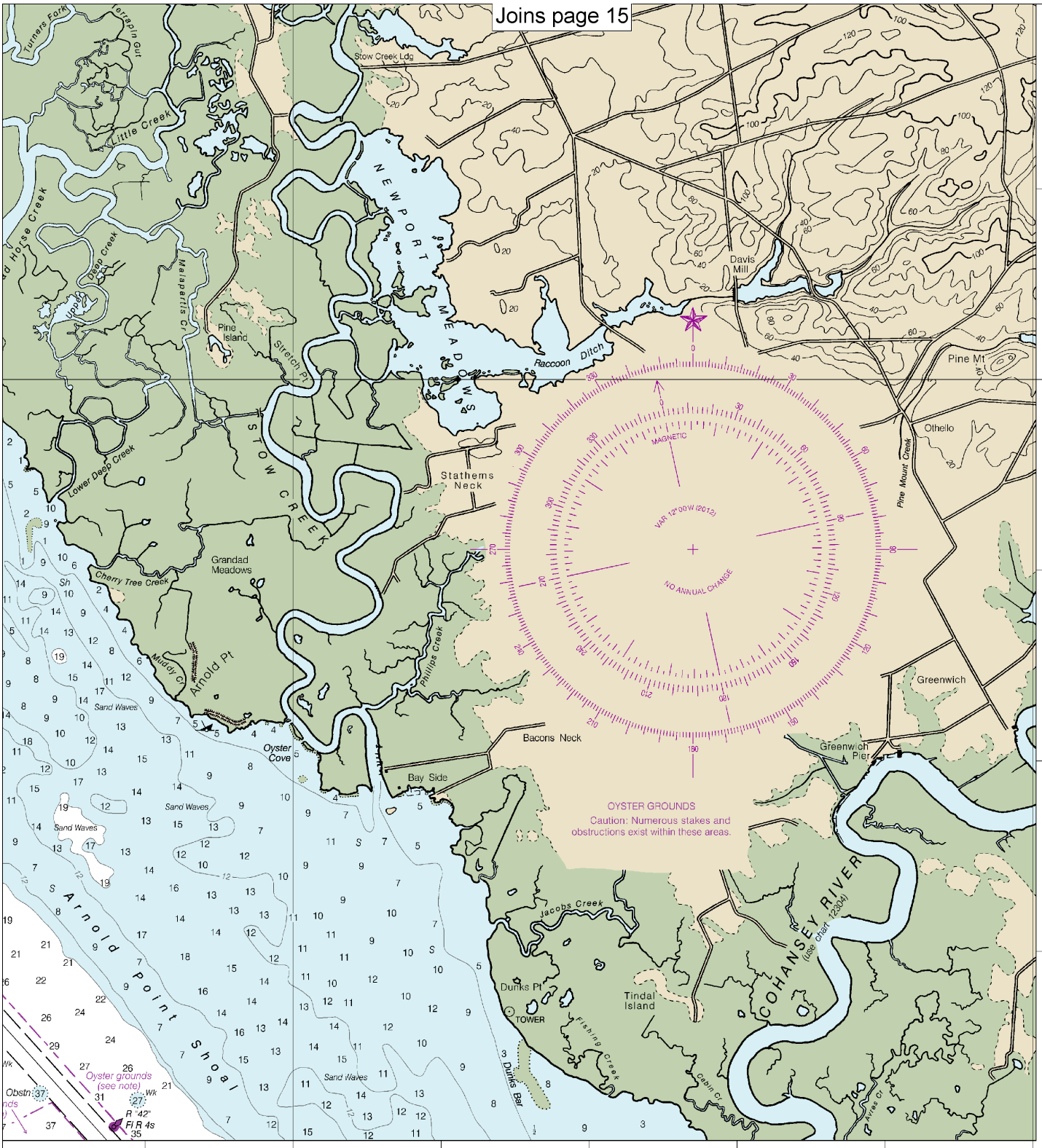
Printed at reduced scale. ~~SCALE 1:40,000~~

Nautical Miles: 1 ½ 0 1 2 3

Yards: 1000 0 1000 2000 3000 4000 5000

See Note on page 5.



OUNDINGS IN FEET

Delaware River, Smyrna River to Wilmington

SOUNDINGS IN FEET - SCALE 1:40,000

12311

EMERGENCY INFORMATION

VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.
Channel 9 – Communications between boats and ship-to-coast.
Channel 13 – Navigation purposes at bridges, locks, and harbors.
Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.
Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.
Channels 68, 69, 71, 72 and 78A – Recreational boat channels.

Getting and Giving Help — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

Distress Call Procedures

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- Release transmit button.
- Wait for 10 seconds — If no response Repeat MAYDAY call.

HAVE ALL PERSONS PUT ON LIFE JACKETS!

All Hazards NOAA Weather Radio NOAA's National Weather Service

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.
http://www.nws.noaa.gov/nwr/

Quick References

Nautical chart related products and information	—	**http://www.nauticalcharts.noaa.gov**
Interactive chart catalog	—	**http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml**
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National Data Buoy Center	—	**http://www.ndbc.noaa.gov/**
NowCoast web portal for coastal conditions	—	**http://www.nowcoast.noaa.gov/**
National Weather Service	—	**http://www.weather.gov/**
National Hurrican Center	—	**http://www.nhc.noaa.gov/**
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This Booklet chart has been designed for duplex printing (printed on front and back of one sheet). If a duplex option is not available on your printer, you may print each sheet and arrange them back-to-back to allow for the proper layout when viewing.

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